

- Generally, cellular mobile units have a connector available for microphone and headset/loudspeaker. These units can interface with a GPS receiver and an associated modem for communication with PSAPs. Geographic data will be forwarded to the PSAP via a CTSO and the PSTN after the call has been switched through to the PSAP. (4)
- The cellular carrier would not be required to maintain a database. PSAPs will maintain their own coordinate map with highway, streets and landmarks. The geographic coordinates of the location of a caller are sent directly in real time by the subscriber's cellular phone. The CTSO does not have to supply Selective Routing information to redirect calls to the proper PSAP. The cellular data base and maintenance are the sole responsibility of the PSAP, which networks the data base to all associated dispatch centers and upgrades the data of all movable units periodically. Source identification will be unnecessary once both the public and cellular data bases are uniform and derive all location information from the geographic coordinates. (5)
- The first generation of E911 information display equipment provides alphanumeric data which is forwarded to the responsible dispatcher. Dispatch routing and route obstruction advice requiring detouring are orally executed. PSAPs are being enhanced with CAD maps which exhibit geographic region of responsibility. The enhanced display provides the location of emergencies against area maps. Emergency vehicles equipped with similar, smaller display equipment can illustrate the area map of their operational region, the vehicle's own location within the region, route obstructions, destination and recommended route. (5-7)
- Sophisticated, user-friendly CAD software to meet all reporting and dispatch needs is readily available. The software advises the dispatcher and/or E911 center of the vehicular movements, road hazards, street directions, emergency locations and other pertinent facts. (9-10)
- The GPS system suffers from the following limitations: the signals will not penetrate or bend around metal and concrete structures and reflected signals cause excessive errors. Consequently, no useful signals reach GPS receivers in concrete buildings and enclosed vehicles. Small, external GPS antennae are a necessity in vehicles. (10)

- The FCC must revise the operational specifications so that at a minimum, the subscriber's name and cellular telephone number would be forwarded to the Public Telephone Network. (10)

Labelling.

- Cellular phone users without GSP must be cautioned with a warning label informing them of the 911 limitations of their device. (4)

**Other Issues:**

- Cellular E911 customers must be able to obtain access to emergency service by dialling "911" without any additional digits. (4-5)

**ERICSSON CORPORATION**

**Interest:** Manufacturer of telecommunications systems and equipment

**Wireless-Related Issues:**

Scope of Requirement

- The rules should only apply to real-time, two-way voice wireless services which are service initialized. This definition properly distinguishes between 'public' wireless services and 'private' wireless services. (2-3)

Need to press SEND

- The dialing pattern for 911 services accessed through a mobile handset should be standardized. The pattern should be "911" plus "send." The extra time involved with pressing the "send" button will ultimately eliminate confusion. (3)

911 Call Priority

- The Commission's proposal to assign priority to 911 calls should be a goal rather than a firm requirement because making queuing available would require significant modifications to the air-interface standards being used. This is costly and unnecessary in light of the high percentage of cellular calls that are completed. (4-5)
- Some real-time, two way services, such as SMR, already provide queuing. Additional technical innovation may provide a means for placing these 911 calls at the beginning of a queue. A three year time frame is a realistic assessment of the time necessary to accomplish this goal. (5)

Provision of location information

- Although it is technically possible for wireless systems to provide the PSAP with information relative to the base station or cell sector to which the handset is connected, this does not mean that sufficient location information is transmitted to permit connection of the mobile stations to the PSAP closest to the mobile caller. Accordingly, Stage 1 should be modified to require sufficient information to be transmitted to identify only the

location of the base station to which a mobile is connected. (6-7)

- The Stage 2 proposal should be eliminated as it does not provide sufficient information to determine if compliance with the new rules has been achieved. Furthermore, received signal strength is not an appropriate means for determining distance to the cell site. (7-8)
- The Stage 3 requirement to locate a wireless 911 caller within a radius of 125 meters will be difficult to implement due to technical problems. Also, it will result in portable terminals which are bigger, heavier and have less battery life. Finally, the 125 meter requirement is not optimal in terms of providing useful information to the emergency community. (8-9)
- The Commission should focus on adopting rules which place the intelligence for location of mobile terminals in the network component of a wireless system rather than in the wireless component. Until the wireless industry decides on an appropriate technology for providing useful and dependable ALI information, the Commission should refrain from adopting the Stage 3 proposals. (9-10)

#### Re-ring/call-back

- The capability to provide re-ring/call back within three years is feasible for some systems and is feasible within five years for others, such as SMR systems. (10)
- The industry will face problems relating to the ability of PSAPs to be able to process all information transmitted by the wireless system. The Commission should not require wireless service operators to provide more information than can be utilized. Alternatively, the Commission should require PSAPs to upgrade their systems. (10-11)

**GE CAPITAL-RESCOM**

**Interest:** Provider of telecommunications services to multi-family apartment buildings

**PBX-Related Issues:**

Reach 911 without initial "9"

- The Commission should require that callers at a PBX station have the capability to reach the public switched network without dialing 911. User education and notification is not a satisfactory alternative. Education or notification systems would not benefit non-English speakers and children. (4-5)
- The Commission's labelling proposal would be impossible to enforce. (5-6)
- The Commission should "grandfather" all existing PBX installations. The incorporation of PBX 911 should be required for any new equipment installations. The Commission should require that manufacturers of PBX equipment offer PBX 911 implementation as an upgrade option. (6).

Attendant Notification

- Supports the attendant notification requirement, but it is not necessary for the attendant to be bridged on to the call. (6-7)

PBX owner's obligation to update LEC

- Supports the Commission's proposal to require coordination procedures to ensure accurate and timely transmission of database information by PBX owners to LECs. The Commission should recognize the importance of ALI and include requirements for updating and maintaining the ALI database. The Commission should establish a standardized format for supplying ALI information. The process of updating the database should utilize automation to the greatest extent possible. (7-8)
- Use of a station number identification will complicate coordination and verification of database information. As an alternative, an identifier could be used to indicate that the transmitted number is not an actual telephone number that can be accessed. The identifier could then be used to locate the correct ALI record. (8-9)

- The MLTS should be able to recognize an off-premise extension and transmit the artificial ANI. (10)
- Opposes the 911 TIE Trunk Interface requirement because it requires that auxiliary equipment be located both on the premises of the MLTS and in the PSAP Tandem Office. The same argument can be made for ISDN. CAMA technology works and works well. (10-11)
- Endorses proposal that a nationwide information protocol standard should be adopted. The NENA recommended format for data exchange should become the standard for all ALI databases. The standardization of the ALI database format will simplify the process of updating multiple ALI databases. (11)
- Precise information should be included in the ALI database. Floor numbers, suite, room or other identifiers should become part of the database. (12)

#### Need for standard data link interface

- The interface procedures currently used by the LECs are sufficient. Agrees that standardization of the interfaces would be beneficial, but standardizing the update protocol may delay implementation or increase costs. It will be faster and less costly to utilize existing protocols. (12)

#### Other

- MLTS owners should not be required to supply ANI or ALI if all of the extensions of the MLTS are located at the same address and that address is the ALI for the trunks. This exemption will lessen the economic impact on small business owners. (13)

#### **Other:**

#### Preemption

- The goal of nationwide compatibility with enhanced 911 systems can best be achieved by preempting state regulation. A uniform standard will enable manufactures to design and build PBX equipment without worrying about conflicting or multiple rules and regulations. (13-14)

**GEOTEK COMMUNICATIONS, INC.**

**Interest:** Specialized mobile radio (SMR) service provider

**Wireless-Related Issues:**

Scope of requirement

- Supports Commission's proposal that private mobile radio services that are not available to the public or interconnected with the public switched network are excluded from the 911 compatibility proposals. (2)
- The Commission should specifically exclude two-way dispatch SMR operators that provide communications services primarily off the public switched network from the compatibility requirements. (2-3)
  - Although interconnection to the public switched network is available, many of Geotek's customers operate within the dispatch-only capability of the system. Thus, the customer's expectations are different than the customer of a typical broadband CMRS system. (3)
  - The Commission seeks 911 compatibility for wireless services that are used as parallel technology to wireline systems. SMR systems which provide primarily dispatch services are not within this context. (4)
- As an alternative, the Commission may require SMR providers to disclaim to its customers that SMR service and equipment does not provide access to enhanced 911 services. (4)
- Even if the Commission requires SMR operators to provide 911 compatibility, the Commission should clarify that 911 emergency service does not need to be provided to SMR customers who choose non-interconnected service. Without this clarification, wireless providers like Geotek would be subject to significant technical and operational difficulties. (4-5)

**GREATER HARRIS COUNTY 9-1-1 EMERGENCY NETWORK**

**Interest:** Governmental entity which implements and administers 911 service in Houston, TX.

**Other Issues:**

- Generally concurs with the position taken by APCO, NENA and NASNA in their joint comments except on the issue of federal preemption, on which it concurs with the comments of the Texas Advisory Commission On State Emergency Communications.

**GTE SERVICE CORP. (GTE)**

**Interest:** LEC and cellular provider.

**PBX-Related Issues:**

PBX owner's obligation to update LEC.

- The verification and reporting rules should be made more precise in order to inform the installation supervisor of exactly when he must inform the LEC of database changes. (34-35)

Other.

- Because PBX systems in use today vary greatly in technical sophistication, the FCC should not promulgate inflexible rules which make the older systems obsolete while barely affecting the newer systems. (32-33)
- Wireless PBX manufacturers should be exempt from these rules until they have established their product in the market place. In the interim, wireless PBX's may be required to carry labels with location instructions. (33)
- PBX users in physically small locations (< 15 stations) should be allowed to substitute labelling requirements for PBX upgrades. (33-34)
- Because the use of interchangeable NPA codes has alleviated the problem of number exhaust, GTE urges that PBX stations be assigned NANP numbers. (35)

**Wireless-Related Issues:**

General.

- The FCC should avoid mandating specific technical standards because such standards will stifle future technological developments. (6-7)
- Delivery of 10 digit ANI to PSAPs will require the upgrading of cellular switches and PSAP equipment. Therefore, the FCC should carefully consider the costs of imposing an ANI requirement. However, if such a requirement is imposed, implementation will be eased by allowing wireless carriers to continue routing 911 calls through LEC tandem switches. (10-12)

Scope of requirement (covered and excluded services).

- Because public safety is best served by making E911 service available to as many users as possible, all CMRS providers, including wide-area SMR should be within the scope of these rules. However, one-way paging and air-ground services should be exempt from these rules due to the technical infeasibility of providing E911 service to these users. (7-10)

Availability of 911 to service-initialized handsets.

- GTE supports this requirement, provided that the wireline network in question supports E911 service and the wireless provider has built out its network. (12-13)

911 call priority.

- Neither call queuing nor call priority has been implemented on today's cellular systems. Therefore, although GTE supports the eventual imposition of wireless E911 call priority, the availability of such a feature will be governed by technical advances made by equipment manufacturers. These advances are unlikely to be made within the next year, as the proposed rule anticipates. (13-15)

Provision of location information.

- In general, before adopting any ALI standard, GTE urges the Commission to carefully analyze the cost of compliance, the longevity of the proposed technology, and the actual field accuracy of the proposed technology. (15-16)
- GTE generally supports the adoption of the Stage 1 base station location requirements. However, GTE cautions that such information might be inaccurate in that the serving cell site is not always the cell site closest to the user, and that the provision of such information will be expensive in that the PSAP, the LEC and the wireless carrier will all need to upgrade their hardware and software in order to provide and share such information. (16-18)
- Because it is unclear which triangulation technology will best provide Stage 2 distance from base station location information, and there need to be many upgrades made to the wireless network in

order to implement any of these technologies, Stage 2 requirements should not be imposed until equipment manufacturers and wireless providers agree that such a requirement is feasible. Further, it should be made clear that the rules only require a location estimate, not an absolutely accurate location. (18-20)

- GTE believes that Stage 3 requirements are premature at this time because the technologies listed in the Driscoll report have neither been field tested with any rigor nor subject to a cost of deployment analysis. As an alternative to Stage 3 requirements, the FCC should direct wireless carriers and equipment manufacturers to develop appropriate location technologies under a process which includes annual reporting requirements to the FCC. (20-24).

#### Retro-fitting.

- GTE opposes any mandatory handset retrofit because such a requirement is expensive and would place cellular service at a disadvantage relative to new technologies such as PCS which do not have an installed base. However, no rule should prohibit customers from voluntarily upgrading their handsets at their own expense. (28-30)

#### Re-ring/call-back.

- In order to implement re-ring/call back, wireless carriers and PSAPs must upgrade their equipment so that 10 number ANI can be sent and received. (25)
- In order to expedite the call back of roamers, GTE suggests that 911 providers maintain a list of roamer access numbers so that PSAPs can call roamers back directly, rather than calling through the roamer's home system. (25)
- Because they have no control over the caller's power supply, wireless 911 providers can not hold the connection open between the 911 caller and the PSAP in the same manner as do wireline providers. (25-26)

#### Common channel signalling

- The FCC should not adopt a wireless signalling standard (such as SS7) at this time, but rather should allow the wireless industry to develop a

standard while periodically informing the FCC of its progress. (26-27)

Access to TTY devices.

- GTE supports the Commission's proposal to require wireless compatibility with TTY devices for the purpose of placing 911 calls.

Funding.

- Prior to mandating the provision of E911 services, the FCC should consider the costs of these measures and how those costs will be recovered. (31-32)

**Other Issues:**

Preemption.

- Preemption is necessary to both assure uniform, nationwide access to E911 services and to ease the regulatory burden on wireless providers. (30-31)

**THE ILLINOIS TELEPHONE ASS'N**

**Interest:** Association whose membership consists of all  
54 LECs in the state of Illinois.

**Other Issues:**

- Endorses, in general, the comments filed by  
Ameritech and GTE. (1)

## INTERAGENCY COMMITTEE ON SEARCH AND RESCUE (ICSAR)

**Interest:** The seven federal agencies responsible for developing and implementing the United States Search and Rescue Plan.

### Wireless-Related Issues:

#### General.

- In the past, ICSAR has concentrated its efforts on maritime and air disasters, where location information is provided by the dedicated Cospas-Sarsat satellite system. However, in the past few years, ICSAR member agencies (especially the Coast Guard) have been increasingly responding to distress calls from cellular telephones. (2)
- Satellite services enter the PSTN through only a few terrestrial gateways over the entire U.S. In order to interface 911 systems and mobile satellite services (MSS), the Commission must address the following issues in future rule makings. (3)
  - A geographical database used to identify the responsible PSAP for any given location.
  - Means for accessing a PSAP from outside the local service area.
  - Means for transmitting the calling terminal's location and identification to the PSAP.
  - Establishment of a standard MSS/PSTN interface.
- The Commission should adopt technical (rather than performance) standards for the MSS to PSTN data transfer interface. However, industry committees should be tasked with developing these standards. (5)
- The FCC should adopt grade of service requirements in order to assure adequate system performance. (5)

#### Scope of requirement (covered and excluded services).

- Both MSS and mobile radio services offering access to both voice and non-voice services provided on the public switched network should be within the scope of these rules. (4)

- Public safety should be the dominant factor in any cost benefit calculation involving E911 access. (4)

911 call priority.

- Wireless 911 calls should be given priority, and emergency providers should be given even greater priority. However, nationwide system performance requirements will have to be adopted in order to make this requirement effective. (5)

Provision of location information.

- An ALI requirement is essential, especially in cases where the 911 call originates from an MSS wireless system. (6)
- ICSAR agrees with the Phase 1 proposal, but would add that there should be a national database of PSAPs and their coverage area so that MSS calls can be properly routed. (6)
- ICSAR agrees with the Phase 3 proposal, particularly its 125 meter sphere resolution requirement.

Re-ring/call-back.

- ICSAR fully supports this requirement in that call-back greatly enhances the probability of victim survival. (7)

Access to TTY devices.

- ICSAR supports the Commission's proposal to require wireless compatibility with TTY devices and adds that this TTY compatibility could also be used to allow non-voice MSS access to 911 services. (7)

Labelling of non-compliant equipment.

- The suggested label should be placed on the package and in the instruction book. However, a shorter label should be placed on the equipment. (7)
- If an MSS system does not provide location information with the call, that service provider should supply an operator to handle emergency calls. (7)

**Other Issues:**

Privacy.

- In order to allow for rescue personnel access to the information they need to do their jobs, privacy requirements must be waived for 911 calls. (8)

**INTERNATIONAL COMMUNICATIONS ASS'N (ICA)**

**Interest:** Association of telecommunications users.

**PBX-Related issues:**

General.

- It is premature to have promulgated these rules prior to the Telecommunications Industry Association's (TIA) completion of its work on Technical Systems Bulletin (TSB) 103, which represents the industry's effort to establish technical standards. (3)
- It may not be in the public interest to force the present E911 model, which is intended for use by the general public, onto PBX owners. (4)
  - It is highly burdensome to force PBX owners to constantly update employee location information, which often changes. (4)
  - PBX owners might be subject to new and unwarranted liability arising out of 911 calls. (4-5)

P.01 grade of service.

- PBX owners should not have to install special E911 trunks in order to connect with PSAPs. (3)
  - E911 access can be provided in a less costly, more flexible manner. (3)
  - Additional E911 trunks might further stretch the resources of the already over-utilized public safety agencies and under-trained (for PBX calls) PSAP operators. (3-4)
- ICA believes that the Regulatory Flexibility Act requires that the FCC consider alternatives to these rules, especially the requirement that PBX users must maintain E911 trunk connections to public safety agencies. (5)

## KENTUCKY EMERGENCY NUMBER ASSOCIATION

**Interest:** Association formed to assist in the development and implementation of enhanced 911 in the state of Kentucky.

### **Wireless-Related Issues:**

#### Provision of location information.

- Strongly supports the APCO/NENA/NASNA position regarding these issues as well as the positions taken at the TIA/PCIA/PCO/NENA/NASNA Joint Experts Meeting. (1)
- The FCC should rule decisively to set the tone that the communications industries need to consider the effects of their designs and products on enhanced 911 systems throughout the United States. (1)
- Service providers, equipment and system suppliers should be required to work with public safety associations to this end. (1)

#### Common channel signalling.

- Advances in the telephone network towards common channel signalling and advanced intelligent network architectures have not included enhanced 911 systems. (1)

**KING COUNTY ENHANCED 911 SYSTEM**

**Interest:** 911 service provider

**Other:**

- Compatibility issues should be addressed on a national level so that nationwide standards are developed. Supports the APCO/NENA/NASNA position and the positions taken at the TIA/PCIA/APCO/NENA/NASNA Wireless and Emergency Services Joint Experts Meeting held in October, 1994. (1)
- The Commission should rule decisively to require that communications industries must consider the effects of their designs and products on E911 systems. Toward this end, the service providers and equipment and system suppliers should be required to work with public safety associations. (2)

**MCI TELECOMMUNICATIONS CORP. (MCI)**

**Interest:** Interexchange and non-incumbent local exchange carrier which owns numerous PBXs.

**PBX-Related Issues:**

Other.

- The new rules should take into account industry standards, protocols and technical references. (2)

**Wireless-Related Issues:**

Provision of location information.

- Endorses the position taken by PCIA in its comments that the FCC abandon its proposed mandatory milestone approach in favor of a four-stage industry-driven implementation process. (2)

**Other Issues:**

Preemption.

- Supports the FCC's proposal to promulgate a single, nationwide set of PBX/E911 compatibility guidelines, thereby preempting inconsistent state regulation. (1)

Impact on competitive LECs.

- Signalling standards and interfaces will have to be established between competitive local exchange service providers (CLESPs) and both incumbent LECs and the E911 system. (3)
- In order to protect the CLESPs from the anti-competitive actions of the incumbent LECs, which will presumably be the custodians of the E911 databases, the FCC should promulgate rules which at minimum: (3-4)
  - Require incumbent LECs to provide unbundled access to 911/E911 databases and interfaces on reasonable and non-discriminatory terms and conditions.
  - Require incumbent LECs to partition 911/E911 data so that it is not available to LEC employees for marketing purposes.

**MOTOROLA, INC.**

**Interest:** Equipment manufacturer.

**Wireless-Related Issues:**

Scope of requirement (covered and excluded services).

- Supports the FCC's proposal to impose compatibility requirements for mobile E-911 access on those features most closely resembling traditional 911 services. In general, the category of real-time voice service over the commercial voice radio service appears appropriate. (4-5)
- Supports the exclusion of one-way paging from the compatibility requirements. Advanced messaging should similarly be excluded.
  - Recommends the following clarification to ensure that the definition of "real-time voice communications" is not erroneously construed to include forms of advanced messaging: "The categories of mobile radio services that might be subject to compatibility requirements with enhanced 911 services are those offering the capability of the user to originate a telephone call into the public switched telephone network with access to duplex, real-time voice services." (5-6)
- Personal digital assistants should be excluded from E-911 compatibility requirements. (6)
- Supports the FCC's conclusion to exclude private mobile systems from the compatibility requirements as such systems' primary and often sole function is dispatch communications. (6-7)
- Local area trunked SMRs should be excluded as these systems' primary function is one-to-one and one-to-many dispatch communications. Maintaining a viable local area SMR dispatch capability will enhance emergency response and disaster recovery for the American public. (7-9)
- Urges that non-geostationary MSS should not be required to meet E-911 compatibility requirements. At some point in the future, when terrestrial CMRS systems have fully defined their E-911 access features, it may be appropriate to examine the interface between these systems and global MSS systems. At that time, the

industry and the FCC should work together to select those features which may be appropriate to incorporate into future generations of MSS systems. (9-12)

Availability of 911 to service-initialized handsets.

- Supports the proposal for 911 availability. Understands the policy rationale behind the proposal not to require user validation for roamer units making 911 calls. (21-22)
- Explains that from a system design standpoint, a non-service initialized mobile unit is indistinguishable from a service-initialized mobile unit until the validation process distinguishes between them. (22)
  - If all roamer 911 calls are to be permitted without user validation, then the cellular system's user validation process must be suspended across the board. Thus, it will not be possible to deny 911 access to non-service-initialized mobiles. (22)
  - The operator can be provided the option, on calls to specified emergency numbers, of: (a) serving all mobiles capable of operating within the air interface protocol; or (b) serving only those mobiles that can be service validated. (22)
- The FCC should obtain the input of all parties in assessing the relative merits of competing objectives. (22)

911 call priority.

- Supports the proposal to provide priority to calls destined to predetermined emergency numbers. Concurs with the FCC's proposal not to interrupt other calls in progress as any call may be an emergency call. (22-23)
- Proposes an alternate timetable for development of the call priority feature. To provide priority channel assignment, prior to deployment in a new software release, significant system-critical software design, development and testing will be required. Believes a reasonable time frame to be no sooner than 2 years following the date of the order. (23)
- A relative priority scheme needs to be devised whereby there are several levels of priority above mobile users' 911 emergency call priority. This would enable NS/EP response personnel to receive their own priority access

during disasters and thus to provide assistance needed.  
(24)

Provision of location information.

- Supports the FCC's initiative to establish E-911 service in the most expeditious manner but agreement on network protocols as well as industry design cycles will make industry implementation within one year difficult. In addition, the provision of location information will limit other capabilities. (12-13)
  - The seven digit limitation will preclude the sending of both location, in the form of a pANI, and a call back number, in the form of the mobile ANI. (13)
  - To establish first phase 911 service with basic location information, PSAP and Wireless Switch suppliers would need to develop new software versions to support the use of pANI with E-911, a process which can take 12 to 15 months, followed by a 3 month period of compatibility testing. Nationwide roll-out would require Switch Supplier support to define system unique data for every wireless market, a cycle which would require 12 months to complete, for a total elapsed time of 27 to 30 months. (13)
- Suggests that the FCC eliminate the second stage proposal as it may prove to be a costly diversion from the third and final step toward E-911 access. Moving directly from the first stage to the implementation of 911 compatibility requirements would allow all parties to focus directly on the correct technical solutions and the complex challenges that must be overcome. (14)
- Suggests that the provision of accurate location determination for wireless subscribers will require invention which has not yet been accomplished. It is factually incorrect to assume, based on the Driscoll survey, that there is currently available a variety of tested location technologies that would function in a mobile environment. AT&T has recently provided a more real-world assessment of current limitations in location technologies which concludes that the precise location information currently available in wireline 911 service is not yet technically feasible. (15-16)
- Proposes an action plan that will enable the industry to move forward with E-911 access without waiting for all technical issues to be resolved. (16)

- Recommends that the wireless industry review the possibility of developing a "location subsystem interface" standard to allow wireless system operators the alternative of providing 911 location capability either by integration into their current wireless infrastructure or by an overlay subsystem provided by a third party equipment provider. (16)
- This proposal builds upon the efforts already underway within the industry. Believes that the FCC's phased implementation plan should be keyed to the critical processes now being addressed within the industry bodies. Until these industry bodies have accomplished their work, it will not be in the public interest to set arbitrary dates for wireless location implementation. (16-17)
- Any performance requirements that are ultimately adopted also should include the factor of reliability. Suggests that any reliability standard above 60 percent would create unrealistic expectations in a wireless environment. Recommends a minimal requirement that calls should be able to be located within 12 meters in three dimensions, with no better than 60 percent reliability. (17-18)
- While it may not be necessary for the FCC to mandate a time stamp feature as part of the current proceeding, industry participants may wish to include the time dimension as part of the process. (18)
- Opposes the proposal to establish specific requirements for base and mobile transmitters as different systems may use different radio technologies to provide location information. Since 911 location capability is a system issue, type acceptance on an individual system element is not likely to be effective in assuring compliance with the proposed rules. (25)
- Urges that cut-off dates for manufacture, importation and marketing of equipment be tied, not to the effective date of the rules adopted within this proceeding but instead to the standards development process which the industry must complete before 911 access can be defined and implemented. (25)

Re-ring/call back.

- Supports the development of solutions to provide call back capability but believes this will be difficult to accomplish without compromising the requirement for routing to the most appropriate PSAP based on serving

cell and sector information. Based on the need to define, standardize, design and implement the required new interface(s), believes the initial capability would be difficult to provide within the specified three year period. (19-20)

- Call back capability for service-initialized local mobiles with standard directory numbers can be provided in a straight forward manner by dialing the mobile number over the standard telephone network. Special capabilities would have to be provided to call mobiles whose service profile normally prevents them from receiving incoming calls. (20)
- Non-home service-initialized mobiles can be dialed over the national telephone network only if they are valid roaming mobiles with standard national directory numbers and subscribe to a "follow-me" roaming service used by the local cellular service provider. For other cases, the mobile ID can be provided directly by DTMF to the specific cellular service provider associated with the caller. A dedicated connection would be required between the PSAP and the mobile switching center. (20-21)
- Non-service initialized mobiles may not have a dialable number. The PSAP may be required to specify which ESN was intended to receive the call-back page so that the correct mobile might be selected from the multiple responses. (21)

#### Labelling.

- Suggests that the proposed labelling requirement is less than helpful as the proposed language may become obsolete as location capabilities evolve and the lengthy wording may not be readable on small mobile handsets. (26)
- It is impractical to devise a universal label that would apply accurately to all 911 systems across the nation. (26)
- While the labelling proposal highlights the need for education of the user as to how to make 911 calls, other communications media may be more effective educational tools, such as public service announcements or student education programs. (26)